

REMARKS

Preliminary Remarks

The Non-Final Office Action of April 12, 2005 has been received and reviewed. Claims 1-15 are pending, of which claims 1 and 4-8 stand rejected, claims 2-3 are indicated to contain allowable subject matter, and claims 9-15 are allowed. In this response, the Applicant respectfully traverses the rejection of claims 1 and 4-8 for the reasons set forth below.

Reconsideration of and withdrawal of all pending rejections in view of the following remarks is respectfully requested. All pending claims now being in condition for allowance, the Examiner is respectfully requested to pass the application to issue.

Allowable Subject Matter

The Applicant appreciates the indication that claims 9-15 are allowed. The Applicant also appreciates the indication that claims 2-3 contain allowable subject matter, but respectfully submit that claims 1 and 4-8, as currently written, are patentable over the references cited by the Examiner.

35 U.S.C. 103 Rejections

Claims 1 and 4-6 and 8 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent Application Publication No.: 2003/0007108 to Hwang, *et al.* ("Hwang") in view of U.S. Patent Application Publication No.: 2002/0195609A1 to Yoshitake, *et al.* ("Yoshitake"), and further in view of U.S. Patent No.: 6,554,407 to Ikeda, *et al.* ("Ikeda"). Claim 7 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Hwang, Yoshitake, Ikeda, and in further view of U.S. Patent No. 6,600,540 to Yamakita. These rejections are respectfully traversed.

The Applicant and Examiner agree that at least one feature of claim 1 is not taught or suggested by Hwang or Yoshitake, alone or in combination. For example, claim 1 recites in pertinent part:

a plurality of storage electrodes formed on the substrate,
each storage electrode having a plurality of branches,
wherein at most one of the branches has an isolated end.

At page 2 of the present Office Action, the Examiner states:

Hwang does not disclose each storage conductor includes a plurality of branches, wherein at most one of the branches of each storage conductor has an isolated end. Yoshitake discloses in figure 3 an electrode 23 of an LED with a plurality of branches, but does not disclose at most one of the branches of the electrode has an isolated end.

Except that the Examiner distorts the language of claim 1 in making this point, the Applicant agrees that neither Hwang nor Yoshitake disclose "a plurality of storage electrodes formed on the substrate, each storage electrode having a plurality of branches wherein at most one of the branches has an isolated end." At issue is whether the disclosure of Ikeda cures the deficiencies of Hwang and Yoshitake. The Applicant respectfully submits that it does not.

According to its abstract, Ikeda discloses:

an ink jet head 1 in which dielectric breakdown does not occur even when a defective portion has occurred in a thin film piezoelectric element 18... A discontinuity portion 25 of the common electrode 17 removed by minute dielectric breakdown is covered by an insulative layer 22. A defective portion 24 of the piezoelectric element 18 becomes a no-voltage application portion where the applied voltage is locally absent.

With reference to Ikeda's 10(b), the Examiner states at pages 2-3 of the present Office Action:

Ikeda discloses in figure 10(b), an electrode 19, which has a discontinuity portion according to the defective layers portion beneath it. (emphasis added)

Consequently, it may be inferred that the Examiner understands that in Ikeda's invention, discontinuity portions 25 are formed between electrodes 19 at and only at wherever a defective portion 24 appears in the dielectric layer 32 that is positioned under the electrodes 19. Furthermore, it is clear from at least Ikeda's col. 1, line 66 to col. 2, line 25 and col. 3, lines 1-6, that but for the defect 24 in the dielectric layer 32, the electrodes 19 would have no discontinuity portions 25 whatsoever. As neither the invention nor Hwang or Yoshitake are concerned with defects in piezoelectric elements or with forming electrode discontinuity portions directly above such defects, the Applicant has difficulty understanding exactly how Ikeda remedies the deficiencies of either Hwang or Yoshitake.

Moreover, it is clear from Ikeda's specification that the electrodes 19 are in fact separate electrodes, and not branches. For example, col. 22, lines 42-46 state:

Then, as illustrated in FIG. 10(b), the upper electrode 33 is partially removed by etching, or the like, so as to leave only predetermined portions of the upper electrode 33. Through such a patterning operation, the plurality of separate electrodes 19 is formed. (emphasis added).

Consequently, like Hwang and Yoshitake, Ikeda fails to disclose "a plurality of storage electrodes formed on the substrate, each storage electrode having a plurality of branches,wherein at most one of the branches has an isolated end," (emphasis added) as recited by claim 1. For at least one or more of the above reasons, claim 1 is allowable over the combination of Hwang, Yoshitake, and Ikeda.

Claims 4-6 and 8 are also allowable over this combination of references by virtue of their dependencies on allowable base claim 1. Accordingly, the rejection of claims 1, 4-6, and 8 should be withdrawn.

Additionally, the Applicant respectfully submits that no motivation exists to combine Hwang, Yoshitake, and Ikeda. First, all three references are pulled from

disparate arts, two of which are non-analogous to the invention. This is exemplified by each reference's different U.S. and International Classification. For example, Hwang is classified as U.S. Cl. 349, subclass 43; Yoshitake is classified as U.S. Cl. 257, subclasses 81, 17, 170 and 171; and Ikeda is classified as U.S. Cl. 347, subclasses 68, 69, 70, and 71.

Of the three references, only Hwang, which discloses a Liquid Crystal Display (LCD), may be relevant to the Applicant's invention; but as mentioned above, the Examiner admits that Hwang does not disclose or suggest at least one feature recited in claim 1. On the other hand, Yoshitake is non-analogous because the semiconductor Light or Laser Emitting Diode that it discloses operates very differently than the LCD display of Hwang and from the LCD and electroluminescent (EL) displays of the Applicant's invention. Ikeda is the most non analogous of all the references because it discloses not a display of any type, but rather an ink jet head and method for manufacturing the same.

It is respectfully submitted that given the disparate problems, principles of operation, and technical field of endeavor of each of Hwang, Yoshitake, and Ikeda, a skilled artisan at the time the invention was conceived would not have been motivated to seek solutions to the problems addressed by the Applicant's invention from any of these references, either alone or in combination. Conflicting teachings such as these have little or no expectation of success. Consequently, there would have been no motivation for a skilled artisan to combine them. For one or more of the above reasons, the features of claim 1 are patentably distinguishable over the cited references, alone or in combination. Claims 4-6 and 8 are also allowable over this combination of references at least by virtue of their dependencies on allowable base claim 1. Accordingly, the rejection of claims 1, 4-6, and 8 should be withdrawn.

Claim 7 is also allowable over the combination of Hwang, Yoshitake, and Ikeda at least by virtue of its dependencies on allowable base claim 1. Additionally, the Yamakita reference does not cure the deficiencies of the other cited references. Accordingly, the rejection of claim 7 should be withdrawn.

Other Matters - Comments on Examiner's Reasons for Indication of Allowability

At page 4, the Examiner stated:

The primary reason for indication of allowability of claims 2 and 3 is the inclusion therein of the limitation that of the longitude [portions of the storage electrodes are connected together by connecting portions.

The Applicant agrees with the Examiner that one or more of the features of claims 2-3 are allowable over the combination of prior art references. The Applicant, however, respectfully disagrees with this primary reason for indication of allowability, as it distorts the language of both claims 2 and 3. In other words, the language identified by the Examiner is not a feature of either claim 2 or claim 3. Moreover, patentability of the invention may not require every feature of the claims or reside in each feature exactly as expressed therein; and the Applicant does not acquiesce in any other of the Examiner's indications of allowability not specifically addressed herein.

CONCLUSIONS

In view of the foregoing remarks, the Applicant submits that all of the rejections have been overcome, and that the claims are patentably distinct from the prior art of record and in condition for allowance. The Examiner is respectfully requested to pass the above application to issue, and to contact the undersigned at the telephone number listed below, if needed. The Applicant hereby makes a written conditional petition for extension of time, if required. Please charge any deficiencies in fees and credit any overpayment of fees to Deposit Account No. 23-1951 (McGuire Woods).

Respectfully submitted,

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